

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A speech encoding method comprising:  
adding a first signal from an adaptive codebook, which stores a past low-pass filtered excitation signal, and a second signal from a second codebook to generate an excitation signal;  
generating a synthesized speech signal using the excitation signal;  
filtering the excitation signal through a short-term excitation filter having low-pass characteristics to produce a low-pass filtered excitation signal; and  
storing the low-pass filtered excitation signal in the adaptive codebook.
2. (Canceled)
3. (Previously Presented) A method according to claim 1, wherein the filtering step is performed by a recursive filter expressed by  $R(z) = 1/(1 - k_1z^{-1})$  ( $k_1$ : filter coefficient) in a z-transform domain.
4. (Canceled)

5. (Previously Presented) A speech encoding method comprising:
- selecting code information representing a first code vector by using an adaptive codebook so as to reduce perceptually weighted distortion between a target vector obtained from an input speech signal and a synthesized vector;
  - selecting code information representing a second code vector from a second codebook so as to reduce perceptually weighted distortion of a synthesized speech signal;
  - adding a first signal from the first code vector and a second signal from the second code vector to generate an excitation signal;
  - generating a synthesized speech signal using the excitation signal;
  - filtering the excitation signal through a short-term excitation filter having low-pass characteristics to produce a low-pass filtered excitation signal; and
  - storing the low-pass filtered excitation signal in the adaptive codebook.
6. (Previously Presented) A method according to claim 5, wherein the filtering step is performed by a recursive filter expressed by  $R(z) = 1/(1 - k_1z^{-1})$  ( $k_1$ : filter coefficient) in a z-transform domain.
7. (Canceled)

8. (Previously Presented) A speech decoding method comprising:  
adding a first signal from an adaptive codebook, which stores a past low-pass filtered excitation signal, and a second signal from a second codebook to generate an excitation signal;  
generating a synthesized speech signal using the excitation signal;  
filtering the excitation signal through a short-term excitation filter having low-pass characteristics to produce a low-pass filtered excitation signal; and  
storing the low-pass filtered excitation signal in the adaptive codebook.
9. (Canceled)
10. (Previously Presented) A method according to claim 8, wherein the filtering step is performed by a recursive filter expressed by  $R(z) = 1/(1 - k_1 z^{-1})$  ( $k_1$ : filter coefficient) in a z-transform domain.
11. (Canceled)
12. (Previously Presented) An electronic apparatus comprising:  
a speech encoder configured to execute the speech encoding method according to claim 1; and  
a speech input device configured to supply a speech signal to the speech encoder.

13. (Previously Presented) An electronic apparatus comprising:  
a speech decoder configured to execute the speech decoding method according to claim 8; and  
a speech output device configured to output a speech signal from the speech decoder.

14. (Previously Presented) An electronic device comprising:  
a speech encoder configured to execute the speech encoding method according to claim 1;  
a speech decoder configured to execute a speech decoding method comprising:  
adding a first signal from an adaptive codebook, which stores a past low-pass filtered excitation signal, and a second signal from a second codebook to generate an excitation signal;  
generating a synthesized speech signal using the excitation signal;  
filtering the excitation signal through a short-term excitation filter having low-pass characteristics to produce a low-pass filtered excitation signal; and  
storing the low-pass filtered excitation signal in the adaptive codebook.

15 - 17. (Canceled)

18. (Previously Presented) A speech encoding apparatus comprising:  
an adaptive codebook configured to store a past low-pass filtered excitation signal;

a second codebook configured to generate a second signal;  
an adder configured to add a first signal from the adaptive codebook and a second signal from the second codebook to generate an excitation signal;  
a synthesis filter configured to generate a synthesized speech signal using the excitation signal; and  
a short-term excitation filter having low-pass characteristics configured to filter the excitation signal and produce a low-pass filtered excitation signal to be stored in the adaptive codebook.

19. (Previously Presented) A speech encoding apparatus comprising:  
a first codebook configured to store a past low-pass filtered excitation signal and generate a first code vector;  
a second codebook configured to generate a second code vector;  
a first code vector selector configured to select a code vector representing the first code vector from the first codebook so as to reduce perceptually weighted distortion between a target vector obtained from an input speech signal and a synthesized vector obtained from a candidate vector of the first code vector;  
a second code vector selector configured to select a code vector representing the second code vector from the second codebook so as to reduce perceptually weighted distortion of a synthesized speech signal;  
an adder configured to add a first signal from the selected first code vector and a second signal from the selected second code vectors to generate an excitation signal;

a synthesis filter configured to generate a synthesized speech signal using the excitation signal; and

a short-term excitation filter having low-pass characteristics configured to filter the excitation signal and produce a low-pass filtered excitation signal to be stored in the adaptive codebook.

20. (Previously Presented) A speech decoding apparatus comprising:  
an adaptive codebook configured to store a past low-pass filtered excitation signal and configured to generate a first signal;  
a second codebook configured to generate a second signal;  
an adder configured to add the first signal and the second signal to generate an excitation signal;  
a synthesis filter configured to generate a synthesized speech signal using the excitation signal; and  
a short-term excitation filter having low-pass characteristics configured to filter the excitation signal and produce a low-pass filtered excitation signal to be stored in the adaptive codebook.

21. (Currently Amended) An electronic apparatus comprising:  
a speech ~~encoder~~ encoding apparatus according to claim 18; and  
a speech input device configured to supply a speech signal to the speech encoding apparatus.

22. (Currently Amended) An electronic apparatus comprising:  
a speech ~~decoder~~ decoding apparatus according to claim 20; and  
a speech output device configured to output a speech signal from the speech decoding apparatus.
23. (Previously Presented) An electronic device comprising:  
a speech encoding apparatus according to claim 18;  
a speech decoding apparatus comprising:  
an adaptive codebook configured to store a past low-pass filtered excitation signal and configured to generate a first signal;  
a second codebook configured to generate a second signal;  
an adder configured to add the first signal and the second signal to generate an excitation signal;  
a synthesis filter configured to generate a synthesized speech signal using the excitation signal;  
a short-term excitation filter having low-pass characteristics configured to filter the excitation signal and produce a low-pass filtered excitation signal to be stored in the adaptive codebook;  
a speech input device configured to supply a speech signal to the speech encoding apparatus; and  
a speech output device configured to output a speech signal from the speech decoding apparatus.

24. (Canceled)

25. (Previously Presented) A method according to claim 1, wherein the second codebook is a stochastic codebook.

26 - 27. (Canceled)

28. (Previously Presented) A method according to claim 8, wherein the second codebook is a stochastic codebook.

29 - 30. (Canceled)

31. (Previously Presented) A speech encoding apparatus according to claim 18, wherein the first signal is an adaptive code vector multiplied by a gain; and the second codebook is a stochastic codebook.